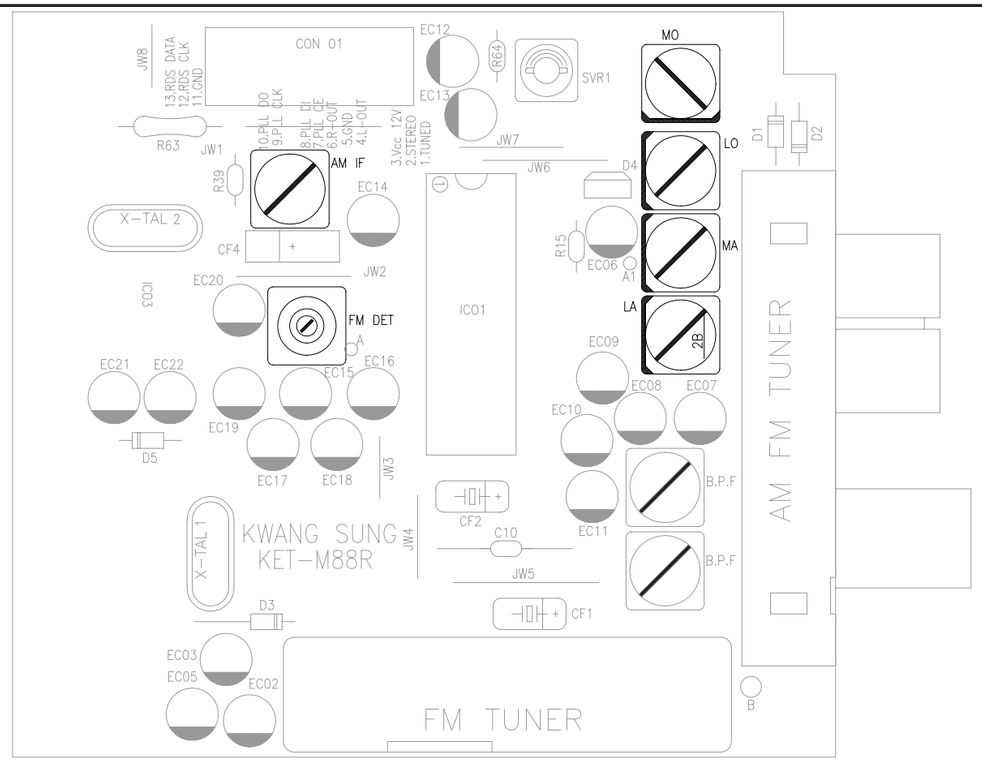
1. Alignment and Adjustments

1-1. Tuner



* Adjustment Location of Tuner PCB

ITEAM	AM(MW) OSC	AM(MW) RF	LW OSC	AM(MW) RF	SW1 OSC	SW1 RF	SW2 OSC	SW2 RF
Received FREQ.	522~1611 KHz	594 KHz	146~290 KHz	150 KHz	2.3~7.3 MHz	3.5MHz	9.5~26.1MHz	10MHz
Adjustment point	MO	MA	LO	LA	LO	MA	LO	MA
Output	1~7.0±0.5V	Maximum Output (Fig1-4)	2~7.0±0.5V	Maximum Output (Fig1-4)	1~8V±1V	Maximum Output (Fig1-4)	1~8V±1V	Maximum Output (Fig1-4)

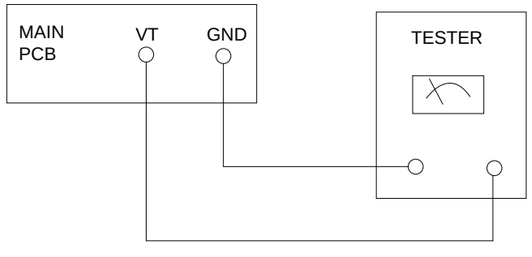


Fig 1-4 OSC Voltage

FM THD Adjustment	
SSG FREQ.	98 MHz
Adjustment point (FM DET)	FM DETECTOR COIL
Output	60 dB
Minumum Distortion (0.4% below) (Figure 1-1)	

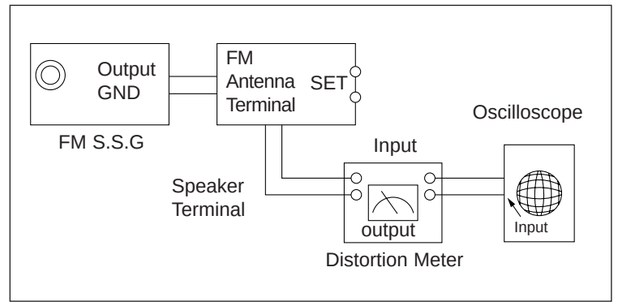


Figure1-1 IF CENTER and THD Adjustment

FM Search Level Adjustment	
SSG FREQ.	98 MHz
Adjustment point (SVR1)	BEACON SENSITIVITY SEMI-VR(10KΩ)
Output	28 dB(±2dB)
Adjust SVR1 so that “TUNED” of FLT is lighted (Figure 1-2)	

*Adjust FM S.S.G level to 28dB

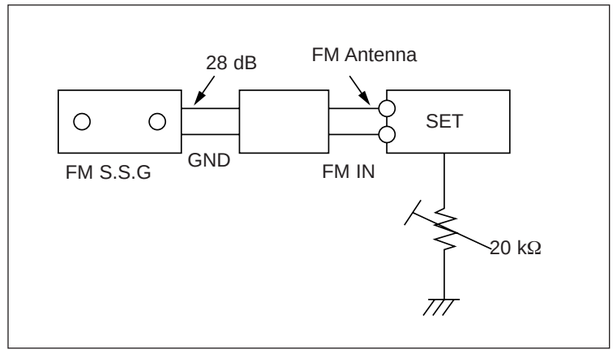


Figure1-2 FM Auto Search Level Adjustment

AM(MW) I.F Adjustment	
SSG FREQ.	450 kHz
Frequency	522 kHz
Adjustment point	AM IF
Maximum output (Figure 1-3)	

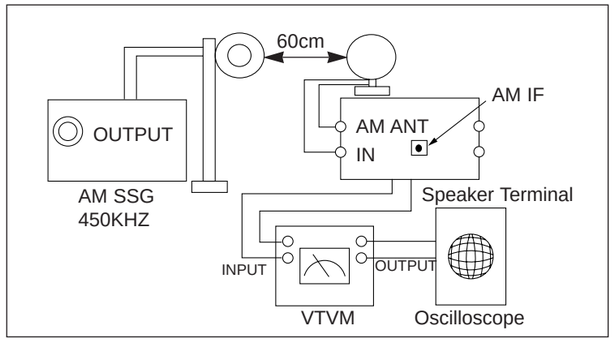


Figure1-3 AM I.F Adjustment

1-1-2 AM(MW),LW,SW1,SW2 Adjustment

	Circuit to be Adjusted	Measuring Instrument & Arrangement	Step	S.S.G Frequency	Radio dial Setting	Adjusting Point	Adjust for
AM (MW)	OSC	Connect AM signal generator to loop antenna,VTVM AND oscilloscope (Fig 1-3)	1	522KHz	522KHz	MW OSC	Aduust for 1.0V±0.1V at the low. (IR117)
			2	1611KHz	1611KHz	MW OSC	Check for 7.0V±1.0V at the high. (IR117)
	RF	"	1	594KHz	594KHz	MW ANT	Maximum out
	INTER FREQ	"	1	455KHz	522KHz	TL2	Maximum out
LW	OSC	Fig 1-3	1		146KHz	LW OSC	Aduust for 2.0V±0.1V at the low.
			2		290KHz	LW OSC	Check for 7.0V±1.0V at the high.
	RF		1	150KHz	150KHz	LW ANT	Maximum out
SW1	OSC	Fig 1-3	1		2.3MHz	SW1 OSC	Aduust for 1.0V±0.1V at the low.
			2		7.3MHz	-	Check for 8.5V±1.0V at the high.
	RF		1	3.5MHz	3.5MHz	SW1 ANT	Maximum out
SW2	OSC	Fig 1-3	1		9.5MHz	SW2 OSC	Aduust for 1.5V±0.1V at the low.
			2		26.1MHz	-	Check for 8.0V±1.0V at the high.
	RF		1	10MHz	10MHz	SW2 ANT	Maximum out

1-2 Cassette Deck

1-2-1 To Adjust Tape Speed

Notes

1) Measuring tape: i) MTT-111 (or equivalent)
(Tapes recorded with 3kHz)
ii) MTT-5512 (or equivalent)
2) Connect the cassette deck to the frequency counter as in figure 1-4.

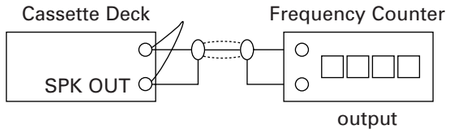


Figure 1-4

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	NOR SPEED Control	OUT (connected to the frequency counter)	1) Deck 1:MTT-111 2) Press PLAY SW button 3) Deck 2:MTT-5512	Turn USR1 to left and right	3KHz	

1-2-2 To Adjust PlayBack Level

Notes

1) Before the actual adjustment, clean the play/recording head.
2) Measuring tape :
i) MTT-114(or equivalent 10kHz AZIMUTH control)
ii) MTT-112(or equivalent) :
3) The cassette deck is connections as shown in figure 1-6.

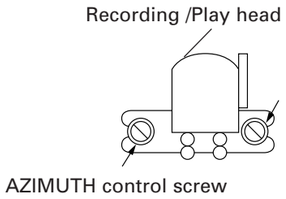


Figure 1-5

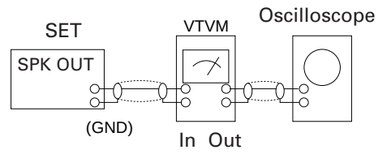


Figure 1-6

① Adjust Deck 1 Play Level

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	AZIMUTH	SPK OUT (VTVM is connected to the scope)	After putting MTT-114 into Deck 1 1)Press PLAY button.	1) Turn the control screw to as shown in Figure 1-5.	Max output and same phase (both channels)	After adjustment secure it with REGION LOCK.
2	PlayBack out Level	Same as above	PLAY MTT-112 on Deck 1.	L-CH:Turn JSR2L to the right and left R-CH : fixed.	Adjust to level and same as R-CH.	See the diagram for adjustment locations.

② Adjust Deck 2 Play Level

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	AZIMUTH	SPK OUT (VTVM is connected to the scope)	After putting MTT-114 into Deck 2 1)Press PLAY button.	1) Turn the control screw to as shown in Figure 1-5.	Max output and same phase (both channels)	After adjustment secure it with REGION LOCK.
2	PlayBack out Level	Same as above	PLAY MTT-150 on Deck 2.	No Adjustment	Check level and same as Deck1 level	See the diagram for adjustment locations.

Adjust REC Bias Voltage

Step	Item	Pre-Setup Condition	Pre-Setup	To Adjust	Standard	Remark
1	REC Bias Voltage	Connect to DCW2 as in Fig.1-7 and read the VTVM.	Input MTT-5512 into Deck2,then press REC button.	L-CH;DSR2 and R-CH;DSR1 to the right and left.	6V	See diagram for adjustment location

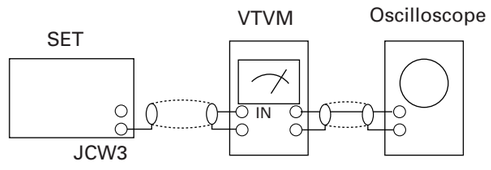


Figure 1-7